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September 28, 1993

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Mitchell Lazarus  
Tel: 202/857-6466  
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William F. Caton, Acting Secretary  
Federal Communications Commission  
Room 222 -- Mail Stop 1170  
1919 M Street N.W.  
Washington DC 20554

Re: Ex Parte Communication in PR Docket No. 93-61,  
Automatic Vehicle Monitoring

Dear Mr. Caton:

Pursuant to Section 1.1206(a)(2) of the Commission's Rules, I am filing the original and one copy of this letter to report an ex parte communication in the above-referenced proceeding.

Today Dr. Frederic P. Heiman, Executive Vice President, and Raymond A. Martino, Director, RF Engineering, of Symbol Technologies, Inc. ("Symbol") met with Bruce A. Franca and Carl Huie of the Office of Engineering and Technology. They were accompanied by Peter Tannenwald of this firm and the undersigned.

Messrs. Heiman and Martino reiterated and expanded on the views that Symbol expressed in the Comments and Reply Comments it has filed in this proceeding.

Attached is a copy of documents that Symbol's representatives left with the Commission staff.

If there are any questions about this notice, please call me at the number above.

Respectfully submitted,

  
Mitchell Lazarus

cc: Bruce A. Franca  
Carl Huie

Frederic P. Heiman  
Raymond A. Martino

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**Presentation To The:**

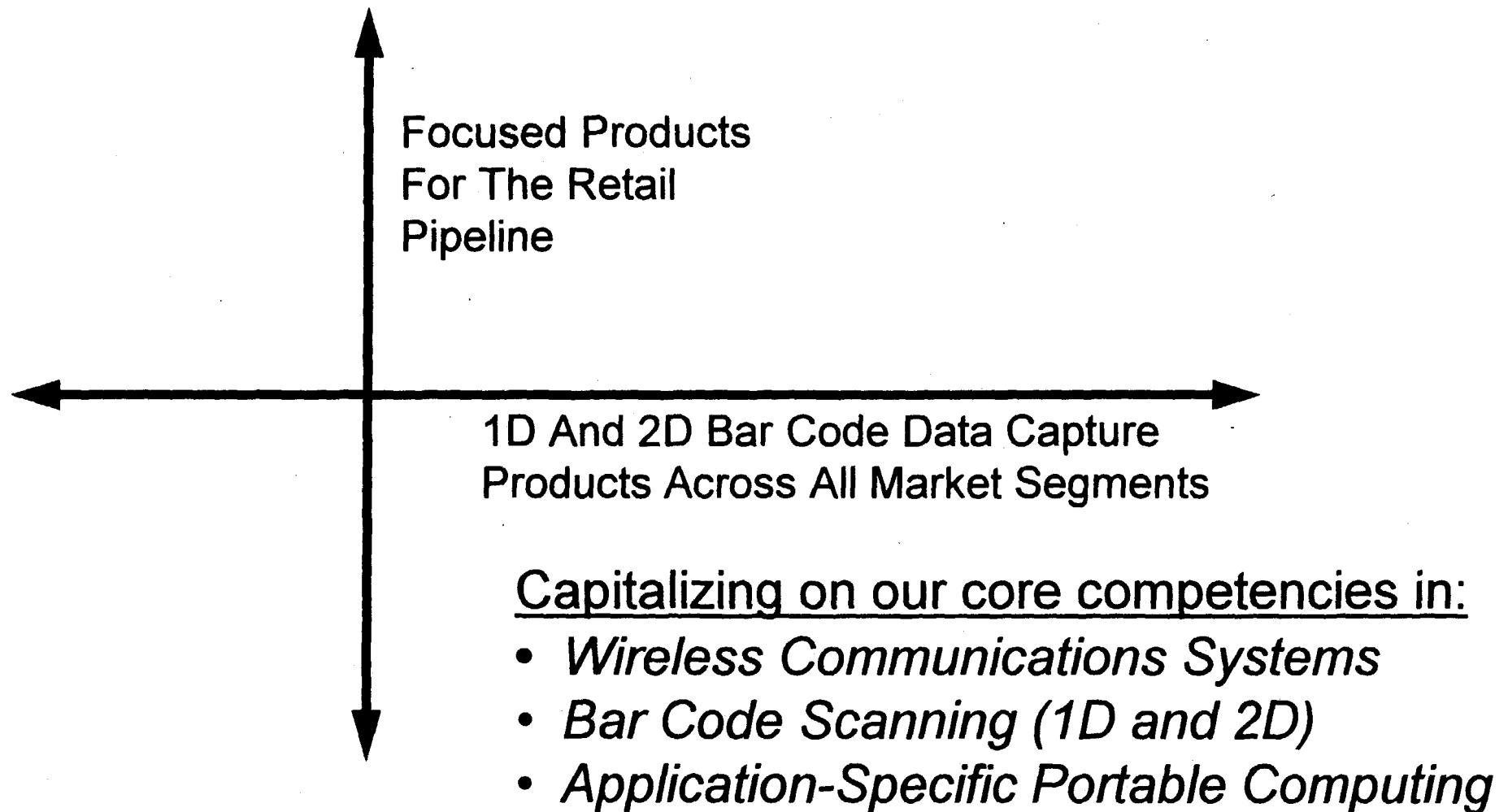
**Federal Communications Commission**

**Fred P. Heiman  
Executive Vice President  
Symbol Technologies, Inc.  
27 - 28 September 1993**

# **Agenda**

- **Background**
  - **Symbol Technologies, Inc.**
- **Commercial Success Of Part 15 Systems**
  - **Encouraged By The FCC**
  - **Many Suppliers And Well-Known Users**
  - **Efficient Use Of The 902 - 928 MHz Band**
  - **Created Jobs And Increased Productivity**
- **Focus On The Retail Marketplace**
  - **Spectrum One<sup>®</sup>**
  - **The Wireless Store**
- **Options And Recommendation**

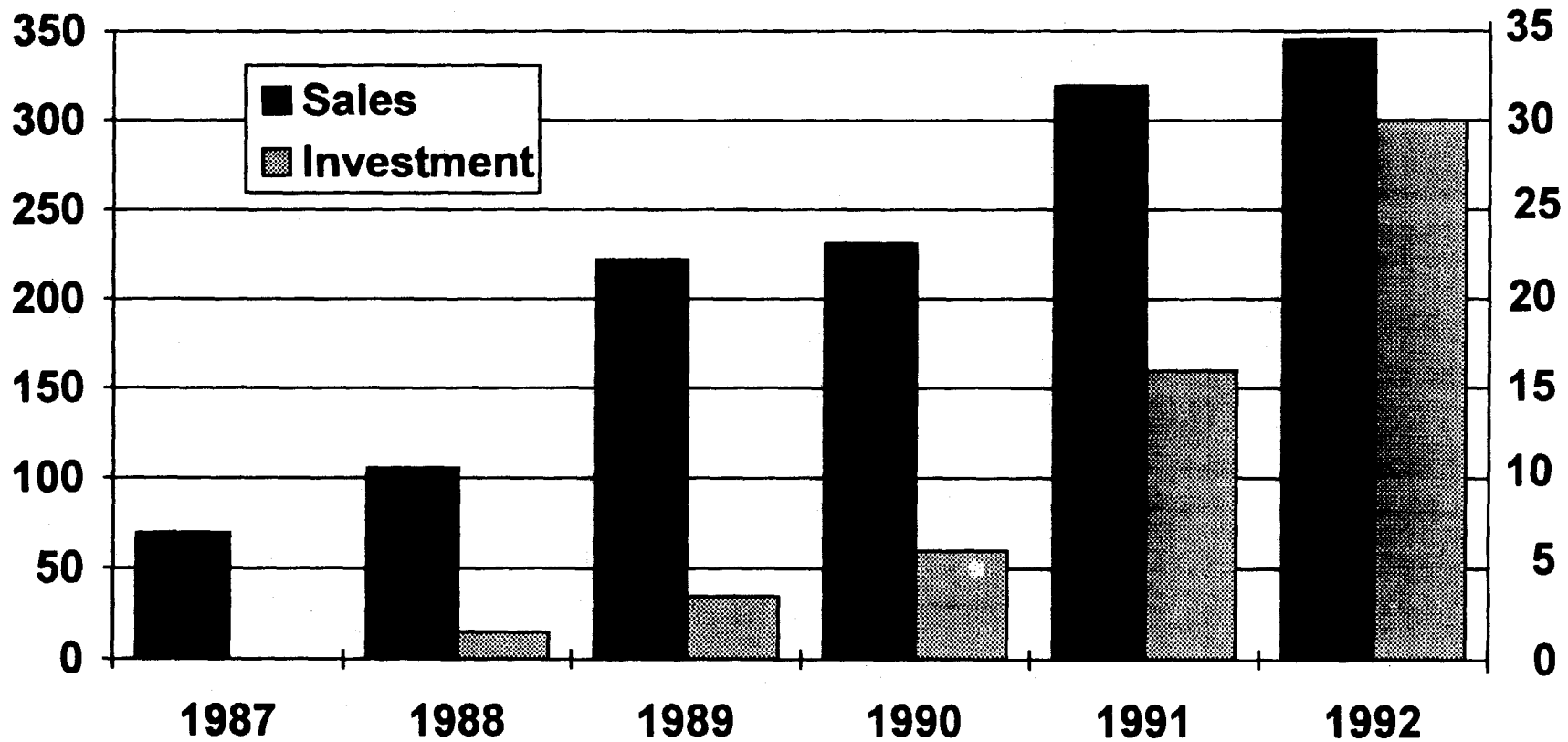
# Symbol's Product Focus



# Symbol Technologies, Inc.

**Total Sales  
(\$ Millions)**

**Spectrum One  
Investment  
(\$ Millions)**



→ **Total investment through 1992 exceeds \$80 million.**

# **Part 15 Systems Are Successful**

- The FCC encouraged use of the 902 - 928 MHz band:  
“The Experiment Was Successful.”
- Opening up this band to high speed data communications:
  - Created jobs in every major industrial sector:  
*Retail    Transportation    Office    Military*  
*Industrial    Factory    Consumer    Health Care*
  - Created a revolution in the retail industry resulting in improved productivity
  - Could do the same in the health care industry, resulting in lower costs
  - Enabled efficient use of the band with minimum government intervention

# **Part 15 Systems Are Successful**

- **For the most part, the suppliers and users are not “FCC Savvy” businesses.**
- **The 1989 revisions were seen as continuing support of this band by the FCC.**
- **Based on success in the 902 - 928 MHz band:**
  - **The IEEE 802.11 committee has been meeting for two years to set a spread spectrum RF LAN standard for communications in the 2.4 GHz ISM band.**
  - **The ETSI Group In Europe is in the process of approving spread spectrum communications in the 2.400 - 2.500 GHz band.**
  - **Japan<sup>1</sup> has approved spread spectrum communications in the 2.471 - 2.497 GHz band.**

<sup>1</sup> *Financial hardship to pioneering U.S. companies will reward late-coming Japanese companies with easily won market share in the U.S.*

# **Partial RF LAN Vendor List**

**Symbol Technologies**

**Telxon**

**NCR (Division Of AT&T)**

**California Microwave**

**Norand**

**LXE**

**Proxim**

**Xircom**

**IBM**

**Intermec**

**Cylink**

**Telesystems**

**Apple Computer**

**Omni-Point**

**O'Neil Comm.**

**Clinicom**

**Motorola**

**GEC Plessey**

***Vendors to the industrial and retail LAN market segment only. Does not include vendors of wireless phones, PBXs, WANs, etc.***



# **Industrial And Retail Markets**

*Includes only spread spectrum LAN Systems*

## **Symbol**

<b>Market Share</b>	<b>30%</b>
<b>Installed Base</b>	<b>&gt; \$75 million</b>
<b>Investment</b>	<b>&gt; \$80 million</b>

## **Total Market Segment**

<b>Installed Base</b>	<b>&gt; \$250 million</b>
<b>Investment</b>	<b>&gt; \$275 million</b>
<b>Growth Rate</b>	<b>&gt; 50% per year</b>

*These numbers do not include wireless phones, wireless PBXs, office LANs, alarm systems, point-to-point communications and other Part 15 products. Others estimate the total market to be about \$2 billion.*

# Partial Symbol Customer List

IBM Corp.	Hewlett Packard	Mervyn's Stores	Johnson & Johnson
J.C. Penney	Toys "R" Us	Mitsubishi	Bassett Walker
AT&T	Wal*Mart	Monsanto	Beach Products
K mart	Frank's Nursery	Nakanishi	Bell Canada
General Mills	Kids "R" Us	3-COM	Builders Square
GSA (U.S.)	Kraft General Foods	Acer	Club Price
SAS Airlines	The Gap	Adidas	Collins & Aikman
Haggar Apparel	Lowes	Costco	American Tobacco
Eddie Bauer	Lumberland	AST Research	Kohls
Hudson Bay Co.	Lord & Taylor	UPS	National Semiconductor
Zellers	Mazda	Nordstrom	Atlantic Food Service
Hughes Aircraft	McKesson Drugs	Venture Stores	Red River Army Base
Neutrogena	Smith's Food & Drug	Renault	Elder Beerman
So. Cal. Edison	DSL Transportation	Wherehouse	Roche Biochemical
Penn. P & L	Synoptics	Ross Stores	Woolworths
Phillip Morris	Target Stores	Yamaha	Libbey Owens Ford
Price Mart	Puritan Bennett		

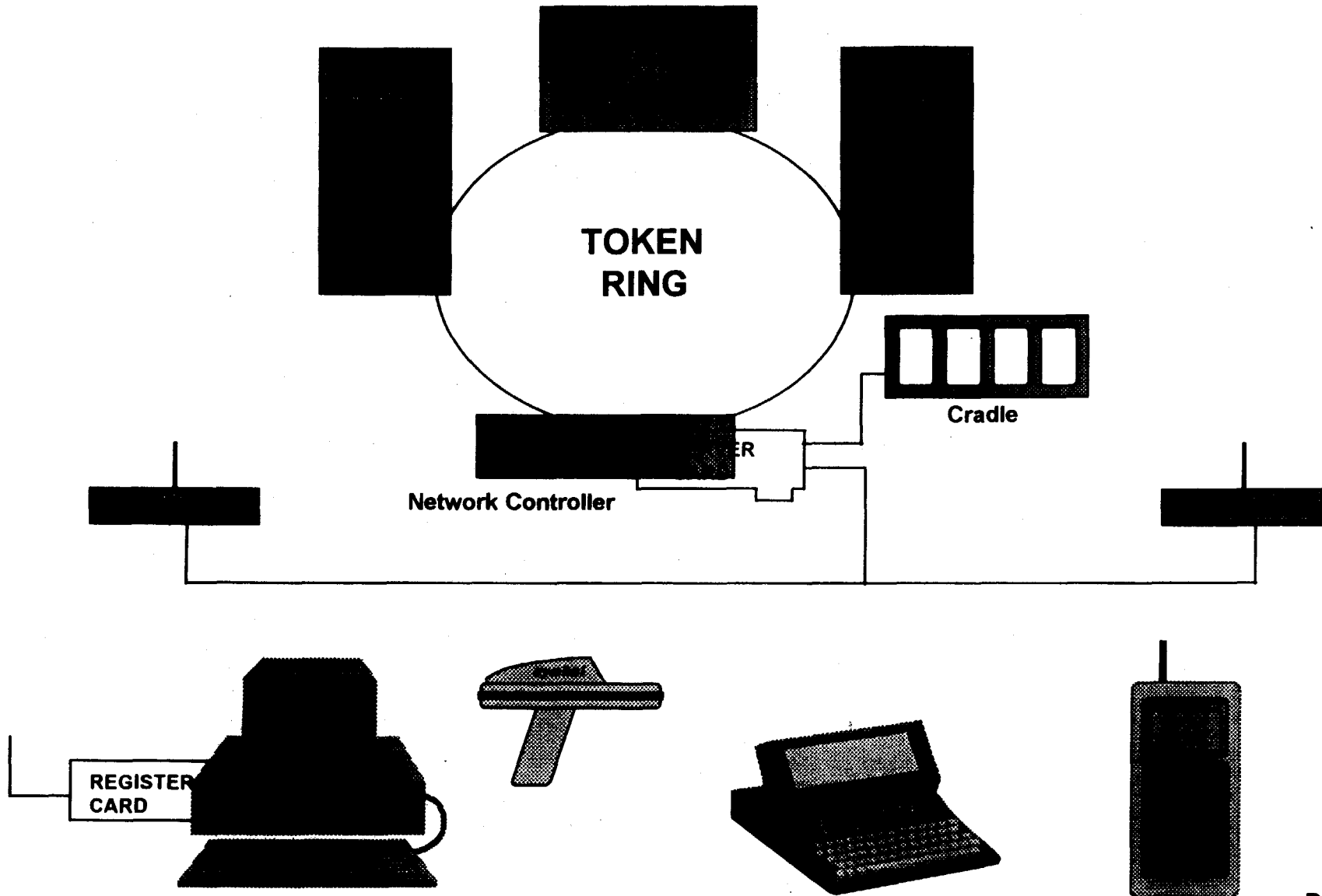
# **Retailing In The 90s**

**The Dominant Technologies That Will Drive The Industry Are:**

- *Wireless Communications***
- *Distributing Processing***

# Wireless Store Configuration

*The total system investment is substantial*



# **Summary**

- **Wireless LANs and the business applications they support have become an important part of the U.S. economic infrastructure:**
  - **2000 Wal\*Mart stores with 29 terminals per store**
  - **2200 Kmart stores with 10 terminals per store**
  - **450 Mervyn's Stores with 20 wireless registers per store**
  - **Test by Telxon and United Airlines at O'Hare Airport**
  - **A hundred other success stories**
- **The Commission should acknowledge and encourage success of the Part 15 industry and:**
  - **Protect shared use of this band by unlicensed users;**
  - **Require LMS services to identify another spectrum.**